



Salt In Diet: Implications for Health from an Ayurvedic Perspective

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ABSTRACT: Hypertension has emerged as one of the most prevalent lifestyle-related disorders, affecting nearly one-fifth of the adult population, and according to the World Health Organization, elevated blood pressure is observed in approximately 23.1% of men and 22.6% of women above 25 years of age in India. Rapid urbanization, sedentary habits, and unhealthy dietary practices significantly contribute to its increasing prevalence, while excessive salt intake, alcohol consumption, and smoking further accelerate disease progression. From an Ayurvedic perspective, the causative factors of hypertension are classified into *Aharaja Nidana*, *Viharaja Nidana*, and *Manasika Nidana*, which lead to the derangement of *Vata*, *Pitta*, and *Kapha Doshas*. Ayurvedic management is guided by the concept of *Samprapti* and focuses on addressing all etiological components simultaneously through regulation of *Ahara*, *Vihara*, and appropriate *Aushadha*. Adherence to *Pathya-Apathya* principles, along with dietary and lifestyle modifications, plays a crucial role in disease control, while therapeutic approaches include *Shamana Chikitsa* for dosha pacification and *Shodhana Chikitsa* for the elimination of accumulated toxins. Classical Ayurvedic literature highlights the use of formulations such as *Sarpagandha Churna* and *Ashwagandha Churna* in the management of hypertension, along with bio-purification procedures like *Basti*, *Virechana Karma*, and *Shirodhara* to restore physiological balance and promote systemic detoxification.

KEY-WORDS: Hypertension, Shamanachikitsa, Shodhanachikitsa, Basti, Virechana, Yoga.

INTRODUCTION

In the contemporary era of highly specialized medical sciences, Ayurveda maintains its distinct identity through a holistic approach that views the human body as an integrated and unified system. Comprehending the body in its entirety becomes complex due to the constant interdependence and mutual interactions among its components; however, Ayurveda acknowledged this integrative relationship of body, mind, and soul long before such concepts were recognized in modern medicine. Classical Ayurvedic philosophy emphasizes the harmony of *Sharira*, *Manas*, and *Atma* as the foundation of health. Although technological progress has enhanced comfort and convenience in daily life, excessive emphasis on material success and development has resulted in the neglect of fundamental life objectives such as

Dharma, Artha, Kama, and Moksha. This imbalance in lifestyle and values has contributed significantly to the emergence of various lifestyle disorders, including hypertension.¹

Hypertension has emerged as a major global health challenge because of its high prevalence, serious complications, and long-term consequences. It is commonly referred to as a “silent killer,” as affected individuals often remain asymptomatic until significant damage has already occurred in vital organs such as the heart, brain, or kidneys. Global estimates indicate that nearly 600 million people are currently living with hypertension, and projections suggest that by 2025, almost one-third of the population above 20 years of age—approximately 1.56 billion individuals—may be affected worldwide. The condition represents a substantial public health burden in both developed and developing nations and is associated with nearly 6% of total global mortality. In India, epidemiological studies have reported a prevalence of about 25% in urban populations and 10% in rural areas. Several modifiable lifestyle factors, including excessive dietary salt intake, alcohol consumption, psychological stress, and physical inactivity, are strongly associated with the development of hypertension. When sustained over prolonged periods, uncontrolled hypertension may manifest with clinical features such as headache, dizziness, palpitations, and generalized fatigue.²⁻⁶

Although classical Ayurvedic texts do not describe hypertension as a distinct disease entity, they strongly emphasize that a physician should understand an unidentified disorder by analyzing the disturbed *Doshas*, the site of manifestation, and the underlying etiological factors before initiating treatment. Ayurveda adopts a principle-based diagnostic approach rather than disease labeling, which allows conditions like hypertension to be interpreted through multiple pathophysiological perspectives. Scholarly consensus indicates that the fundamental pathology of hypertension primarily involves *Rakta* and the vascular channels. Accordingly, various Ayurvedic authorities have described hypertension using different terminologies, reflecting diverse conceptual interpretations, including *Raktagata Vata*, *Siragata Vata*, *Avrita Vata*, *Dhamani Prapurana*, *Rakta Vikshepa*, *Vyana Prakopa*, *Raktamada*, *Uchharaktachapa*, and *Vyana Atibala*.⁷

Concept of Bloodpressure in Ayurveda

Rakta Dhatu, which represents the fluid component of the body, inherently possesses the quality of movement and flow; however, for effective circulation reaching the peripheral tissues, additional functional forces such as *Nodana*, *Abhighata*, *Dhamana*, and *Sarana* are required. These forces are facilitated by the rhythmic contraction and relaxation of *Hridaya* and the pulsatile activity of the arterial system, with blood pressure being the mechanical force generated by this circulatory movement.^{8,9} In Ayurveda, physiological functions are governed by the interaction of *Vata Dosha*, *Pitta Dosha*, and *Kapha Dosha*, along with the seven *Dhatus*—notably *Rasa Dhatu* and *Rakta Dhatu*—and the *Malas* such as *Mutra* and *Purisha*. The Ayurvedic understanding of blood pressure requires assessment of the *Srotasa* through which circulation occurs, as well as the functional integrity of *Hridaya*, *Oja*, and *Mana*. The circulatory mechanism, termed *Rasa Rakta Samvahana*, is described as multidirectional, with kinetic variations depending on regional tissue demands and the status of the *Dhatus*.^{10,11} According to Acharya Sushruta, *Rasa Dhatu*, formed after digestion and composed of minute particles, circulates throughout the body in three distinct directions. The activity of *Hridaya* is also described as operating in three modes—*Shabda*, *Archi*, and *Jala Santanavat*—which correlate with the magnitude of kinetic force or cardiac output. *Vyana Vata*, a subtype of *Vata Dosha*, plays a central role in propelling blood from the heart and distributing it systemically, thereby regulating systolic blood pressure during cardiac contraction. *Prana Vata*, situated in the cranial region, governs the functional regulation of *Hridaya* and sustains arterial continuity, thus influencing cardiac rhythm. Diastolic blood pressure is primarily modulated by *Kapha*

Dosha, particularly *Avalambaka Kapha*, which provides structural support to the cardiovascular system and contributes to peripheral vascular resistance. The inherent auto-rhythmicity of the heart—characterized by speed, fluidity, and diffusion—is attributed to *Pitta Dosha* along with the physiological participation of sodium and calcium ions, while *Vata Dosha* governs the directionality and dynamics of these processes. Any disturbance in the normal course or kinetic force of *Vata Dosha* may result in either elevation or reduction of blood pressure, and obstruction or derangement of these mechanisms is considered a fundamental cause of hypertension.¹¹

Several predisposing factors have been identified that contribute to the development of hypertension^{12,13} In addition to these factors, certain underlying disease conditions act as precipitating causes for secondary hypertension. From an Ayurvedic perspective, such associated disorders include *Madhumeha* (diabetes mellitus), *Sthoulya* (obesity), *Hridroga* (cardiac disorders), and *Vrika Roga* (renal diseases). These conditions exert additional pathological stress on the cardiovascular and renal systems, thereby facilitating the onset or progression of elevated blood pressure.

Table1- Nidana of Hypertension

Nidana of Hypertension
<ul style="list-style-type: none"> • Consumption of alcoholic beverages (<i>Madyapana</i>) • Excessive intake of salt (<i>Lavana</i>) • Sedentary lifestyle characterized by excessive unctuous and sweet food intake, along with daytime sleep (<i>Ati Snigdha, Madhura Ahara, and Divaswapna</i>) • <i>Raktapradushaja Nidana</i> such as intake of unwholesome, excessively hot and sharp substances, overconsumption of food, meat of aquatic animals, stale or putrefied food, and consumption of incompatible food combinations (<i>Viruddha Ahara</i>) • <i>Beeja Dosha</i> (genetic predisposition), particularly family history of <i>Sthoulya</i> and <i>Prameha</i> • Psychological stress and emotional disturbances • Physical and mental strain including <i>Krodha, Bhaya, and Shoka</i>

- ❖ *Doshas-Vata* (all five subtypes, predominantly *Vyana Vayu*)
- Pitta* (mainly *Sadhaka Pitta* and *Pachaka Pitta*)
- Kapha* (primarily *Avalambaka Kapha*)

Table2–Samprapti Ghatakas

Samprapti Ghatakas
<ul style="list-style-type: none"> ❖ <i>Dushya: Rasa, Rakta, Meda</i> ❖ <i>Agni: Jatharagni and Dhatvagni</i> ❖ <i>Ama: Formation due to impaired Jatharagni and Dhatvagni Mandya</i> ❖ <i>Srotasa: Rasavaha, Raktavaha, Manovaha, Medovaha</i> ❖ <i>Adhisthana: Manodaihika</i> (psychosomatic involvement), <i>Hridaya, Sira, Dhamani, and Srotasa</i> ❖ <i>Rogamarga: Bahya and Madhyama</i> ❖ <i>Srotodushti: Ati Pravritti, Sanga type, and Siragranthi</i> ❖ <i>Udbhava Sthana: Ama Pakwashaya</i> ❖ <i>Sanchara Sthana: Rasayani</i> (dhamanis)

Samprapti

The pathogenesis of hypertension manifests simultaneously at both physical and psychological levels and is governed by the imbalance between *Doshas* and *Dushyas*. The primary pathological factor in hypertension is the derangement of *Vata*, particularly *Vyana Vata*, which is responsible for the propulsion and circulation of blood throughout the body. Aggravation of *Vata* may occur independently or in association with disturbances of other *Doshas* and *Dhatu*s, thereby contributing to the progression of the disease.^{11,12} A key event in the development of hypertension is the obstruction or dysregulation of normal *Vata* functioning. Excessive intake of salt and alcohol leads to vitiation of *Sadhaka Pitta* and *Shonita*, while a sedentary lifestyle promotes aggravation of *Avalambaka Kapha*. Psychological stress and emotional disturbances influence *Prana Vayu* along with *Raja Tama Bhava*, thereby affecting mental equilibrium. When *Prana Vayu* becomes imbalanced, it adversely impacts *Hridaya* and its associated components such as *Sadhaka Pitta*, *Avalambaka Kapha*, and *Oja*, ultimately disturbing cardiovascular regulation and facilitating the manifestation of hypertension.¹³

Impairment of digestive fire, referred to as *Agni Dushti*, leads to the formation of *Ama*, which subsequently results in *Dhatu Dushti* affecting *Rasa* and *Rakta*. The accumulation of *Ama* produces *Strotorodha*, causing partial obstruction in the normal circulation of *Rasa* and *Rakta* and thereby aggravating *Vyana Vayu*. Aggravated *Avalambaka Kapha* increases the contractile force of the heart, while heightened *Vyana Vayu* enhances the force of blood ejection (*Gati*) from *Hridaya*, together resulting in forceful arterial blood flow, increased vascular resistance, and elevation of blood pressure. Concurrently, due to *Aharaja*, *Viharaja*, and *Manasa Hetu*, *Jatharagni Mandya* develops, further promoting the formation of *Ama*. Vitiation of *Rasa* and *Rakta* alters blood viscosity and fluid dynamics, compelling the heart to pump blood at higher pressure. Obesity is also recognized as an important contributory factor in hypertension, as the vascular structures (*Sira* and *Dhamani*) are derived from *Medo Dhatu*. Vitiation of *Medo Dhatu* leads to *Strotasavarodha*, increased vascular stiffness, reduced elasticity, and narrowing of the vascular lumen, all of which collectively contribute to the development and persistence of hypertension.^{14,15}

Rupa

Ayurveda adopts a comprehensive approach to clinical assessment by evaluating signs and symptoms through the *Panchagyanendriya Pariksha* system. In the context of hypertension, diagnostic evaluation is primarily carried out using *Darshana*, *Sparshana*, and *Shravana Pariksha* to assess circulatory alterations and associated manifestations. Commonly observed clinical features include *Shirahshoola* (headache), *Nidranasha* (insomnia), *Bhrama* (giddiness), *Tamodarshana* (blackout), *Daurbalya* (generalized weakness), *Hridayadravata* (palpitations), *Krodha Prachurata* (excessive irritability or anger), *Klama* (fatigue), *Sweda Kampa* (seizure-like manifestations), *Raktameha* (urinary abnormalities), and episodes of vomiting. These features reflect the involvement of both somatic and psychological components and signify the systemic impact of sustained elevation of blood pressure.

Preventive Methods

Prevention of disease in Ayurveda primarily emphasizes *Nidana Parivarjana*, which involves the elimination of causative and aggravating factors responsible for disease manifestation. In the context of hypertension, effective control can be achieved by avoiding conditions that result in vitiation of *Rakta Dhatu*. Adoption of wholesome daily regimens through *Dinacharya*, adherence to seasonal adaptations as described in *Ritucharya*, and the practice of ethical conduct and rejuvenative measures under *Achar Rasayana* collectively promote physical and mental well-being. These preventive principles help in

reducing psychological stress, maintaining physiological balance, and play a pivotal role in both the prevention and long-term management of hypertension.

Recommended Practices:^{16,17}

1. Regular consumption of fresh fruits and green leafy vegetables should be encouraged to support cardiovascular health.
2. Intake of foods that are excessively oily, salty, sour, and spicy should be restricted to prevent aggravation of blood pressure.
3. A wholesome diet including cereals such as barley, sorghum (jowar), and wheat, along with pulses like green gram (moong dal) and vegetables such as bitter melon and bottle gourd, should be incorporated routinely.
4. Periodic monitoring of blood pressure is essential for early detection and effective control of hypertension.
5. Lifestyle modification should include maintenance of a balanced diet, regular physical activity, and daily brisk walking for a minimum duration of thirty minutes.
6. Efforts should be directed toward achieving and maintaining optimal body weight.
7. A regular and consistent sleep schedule should be followed to maintain physiological balance.
8. Regular practice of *Yoga*, meditation, and other relaxation techniques is advised to reduce psychological stress and promote overall well-being.
- 9.

Practices to Avoid:

Fatigue and lethargy (*Aalsya*), daytime sleep (*Divaswapna*), staying awake at night (*Ratri Jagran*), smoking, alcohol consumption, overeating, intake of unhealthy or incompatible diets, and excessive consumption of spicy and salty foods, particularly those dominant in *Lavana Rasa* and *Amla Rasa*, should be strictly avoided as these factors contribute to metabolic imbalance and aggravation of hypertension.

Curative Methods^{18,19,20,21}

❖ *Shodhana Chikitsa*, also referred to as purification therapy, is employed in the management of hypertension, which predominantly arises due to the imbalance of *Vata* and *Pitta Doshas* affecting the blood. This therapeutic approach includes procedures such as *Virechana Karma* (medicated purgation), *Basti Karma* (medicated enema), and *Shirodhara*.

❖ *Virechana Karma* is a specialized therapeutic procedure indicated for disorders associated with aggravated *Pitta Dosha*, which plays a significant role in the pathogenesis of hypertension. This therapy facilitates the elimination of vitiated doshas by promoting the expulsion of excess body fluids, including surplus sodium and potassium ions, and aids in maintaining acid–base balance by reducing bicarbonate levels in the stools.

❖ *Basti Karma* acts by stimulating the parasympathetic nervous system in the lower gastrointestinal tract, which may result in suppression of the renin–angiotensin–aldosterone system, vasodilation, and subsequent reduction in blood pressure. Additionally, it activates the vasomotor center, thereby contributing to the regulation and lowering of blood pressure.

❖ *Shirodhara* involves the continuous pouring of warm medicated liquid over the forehead in a relaxed posture. This procedure exerts a calming influence on the central nervous system, promoting relaxation and sound sleep. The warmth of the liquid induces vasodilation and enhances systemic circulation, including cerebral blood flow, thereby improving cognitive functions and alleviating psychological disturbances.

❖ *Shamana Chikitsa*, also known as palliative therapy, focuses on maintaining doshic equilibrium to prevent

and manage hypertension. Under medical supervision, both single-drug and compound Ayurvedic formulations are commonly prescribed. Single drugs frequently used include *Amalaki*, *Rudraksha*, *Haridra*, *Japapushpam*, *Jatamamsi*, *Bhringraj*, *Sadabahar*, *Sarpagandha*, *Shankhapushpi*, and *Vacha*. Compound formulations such as *Arjuna Ksheerpaka*, *Brahma Rasayana*, *Guduchi Rasayanam*, *Madhuparnyadi Yogam*, *Medhya Rasayanam*, *Medhya Vati*, *Sarpagandha Ghan Vati*, *Shodashang Kashaya*, and *Vacha-Mansyadi Yoga* are also utilized. Certain formulations exhibit specific therapeutic actions, including *Sariva* and *Manjishta* for blood purification, and *Gokshura* and *Punarnava* for their diuretic effects.

❖ *Yoga* and meditation are recommended as effective stress-reducing modalities for lowering blood pressure. Specific yogic postures such as *Shavasana*, *Sukhasana*, *Dhanurasana*, *Makarasana*, and *Vajrasana*, along with the regular practice of *Pranayama*, have been shown to reduce blood pressure in both normotensive and hypertensive individuals. According to the Upanishads, the ultimate objective of *Pranayama* and yogic practices is the regulation of *Prana* (life force energy), which serves as a therapeutic tool by inducing mental calmness and deep relaxation.^{22,23}

CONCLUSION

Hypertension remains one of the most widespread global health challenges and continues to be a leading cause of mortality in both developed and developing nations. The prevalence of hypertension is steadily increasing, and conventional therapeutic approaches alone have shown limited success in providing comprehensive management. Prolonged and uncontrolled hypertension exerts deleterious effects on vital organs such as the brain, heart, and kidneys, making early prevention and long-term control essential. In this context, the principles of Ayurveda emphasize the protection of vascular health through the adoption of a balanced and active lifestyle based on *Dinacharya* and *Ritucharya*. Over recent decades, numerous Ayurvedic medicinal plants have demonstrated promising antihypertensive potential and cardioprotective effects, although many formulations remain yet to be fully explored through scientific validation. Currently, practices such as *Yoga* and *Vyayam* have become integral components of daily health regimens. Ayurveda further offers a wide range of therapeutic formulations that aid in lowering blood pressure, neutralizing harmful oxidants, and modulating immune functions. These interventions not only contribute to effective blood pressure control but also assist in preserving cellular integrity and promoting rejuvenation of vital organs against sustained arterial stress.

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